

**WHAT IS CLAIMED IS:**

- 1 1. A semi-submersible floating transfer station suitable for transferring liquid natural gas  
2 (LNG) to or from an oceangoing vessel, comprising at least one semi-submersible  
3 pontoon, said at least one pontoon including  
4 a port section and a starboard section each having at least one outboard ballast tank  
5 below a decked, watertight compartment housing at least one LNG tank, LNG transfer  
6 means comprising a first pump and associated piping for transferring LNG to and from  
7 said vessel, said LNG tanks and shore-transfer piping,  
8 a depressed central section attached to and separating said port and starboard sections  
9 at their bottoms, said central section including at least two inboard ballast tanks, said  
10 port, starboard and central sections forming a U-shaped channel into which said vessel  
11 may be placed for loading or unloading, and  
12 a ballast-deballast system capable of adjusting the submergence in the water of said  
13 central section to conform to the draft of said vessel during loading or unloading and  
14 maintaining said pontoon in a horizontal attitude, and  
15 anchoring means for mooring said floating transfer station at a desired location.  
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- 1 2. The transfer station according to claim 1 comprising at least three pontoons, pontoons  
2 further comprising means to reversibly secure said pontoons to one another with their U-  
3 shaped channels aligned to accommodate said vessel.
- 1 3. The transfer station according to claim 2 wherein said pontoons further include matable  
2 fore/aft projections to interlock said pontoons.
- 1 4. The transfer station according to claim 3 wherein said interlocking means includes self-  
2 centering means to align said pontoons when they are pushed together.
- 1 5. The transfer station according to claim 2, wherein one of said pontoons includes an  
2 enclosed bow projection extending forwardly from said U-Shaped channel, said bow  
3 projection closing one end of said channel.

- 1     6. The transfer station according to claim 2 further comprising a separate semi-submersible  
2        decked bow section engagable with one of said pontoons so as to close one end of said  
3        channel, said bow section including ballast tanks and ballast-deballast means for  
4        adjusting the height of the bow-section deck to the height of the deck of the adjacent  
5        pontoon.
- 1     7. The transfer station according to claim 2 further comprising a regasification unit for  
2        receiving LNG from said vessel or said LNG tanks, gasifying it, and transferring it to  
3        shore piping.
- 1     8. The transfer station according to claim 2 further comprising a liquifaction unit for  
2        receiving natural gas from a shore line, liquefying it to LNG, and transferring said LNG  
3        to said vessel or to said LNG tanks.
- 1     9. The transfer station according to claim 2 wherein at least one pontoon can be disengaged,  
2        placed in the aligned U-shaped channel formed by remaining pontoons, and raised clear  
3        of the water for maintenance and repair.